

<b>PRE-APPEAL BRIEF REQUEST FOR REVIEW</b>		Docket Number (Optional)  ATOMP001									
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]  on _____  Signature _____  Typed or printed name _____	Application Number  10613513		Filed  July 3, 2003								
	First Named Inventor  Brian Y. Lim										
	Art Unit  3742	Examiner  M. Alexandra Elve									
<p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a notice of appeal.</p> <p>The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.</p> <p>I am the</p> <table style="width: 100%;"><tr><td style="width: 50%; vertical-align: top;"><input type="checkbox"/> applicant/inventor.</td><td style="width: 50%; text-align: right; vertical-align: top;">_____ /Melvin D. Chan/ Signature</td></tr><tr><td style="vertical-align: top;"><input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)</td><td style="text-align: right; vertical-align: top;">_____ Melvin D. Chan Typed or printed name</td></tr><tr><td style="vertical-align: top;"><input checked="" type="checkbox"/> attorney or agent of record. Registration number 39,626</td><td style="text-align: right; vertical-align: top;">_____ 408-701-0035 Telephone number</td></tr><tr><td style="vertical-align: top;"><input type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____</td><td style="text-align: right; vertical-align: top;">_____ June 18, 2009 Date</td></tr></table> <p>NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.</p>				<input type="checkbox"/> applicant/inventor.	_____ /Melvin D. Chan/ Signature	<input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)	_____ Melvin D. Chan Typed or printed name	<input checked="" type="checkbox"/> attorney or agent of record. Registration number 39,626	_____ 408-701-0035 Telephone number	<input type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____	_____ June 18, 2009 Date
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<input type="checkbox"/> *Total of _____ forms are submitted.											

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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## **United States Patent and Trademark Office**

Application No.: 10/613,513  
Confirmation No.: 4790  
Customer No.: 51111  
Docket No.: ATOMP001

Commissioner for Patents  
POB 1450  
Alexandria, VA 22313-1450

### **Pre–Appeal Brief Review Request**

Dear Commissioner:

A supplemental appeal brief was submitted by applicants on December 8, 2008, appealing the rejection of pending claims 1-18 and 29-55. In response to applicants' appeal brief, the examiner reopened prosecution, stating that new references were uncovered.

Applicants request a pre-appeal brief conference review because the rejections are clearly based on legal and factual error, and because the same set of claims was erroneously rejected at least twice by the examiner.

#### **Section 112 Rejection**

Applicants believe that the section 112, second paragraph rejection of claims 8–9 is not proper. Claims 8–9 particularly point out and distinctly claims the subject matter of the invention, especially for one of skill in the art. See applicants' May 16, 2007 response for detail.

Regarding claim 8, the examiner again states in her March 20, 2009 office action, "it is not clear how a set of islands of catalyst can be associated with one die. Is the die very large, are the catalyst areas scattered about?" Regarding claim 9, the examiner states, "Is the catalyst on, in or near the die(s)?"

Applicants submit that one of skill in the semiconductor processing arts would understand that semiconductor fabrication involves patterning regions (e.g., islands). An entire die, or multiple dies, of a wafer can be patterned, if so desired; or, within a single die, multiple regions can be patterned, if so desired. Patterned regions within a die (or in multiple dies) can

contain a catalyst to cause nanotubes to grow in these regions. Applicants believe that the claims are sufficiently definite to one of skill in the art. The rejection should be withdrawn.

### **Section 101 Rejection**

Claims 1-18 and 29-55 were provisionally rejected under the section 101 as claiming the same invention as that of claims 1-36 of copending application 10/613,217.

Applicants note that copending application 10/613,217 has been abandoned. Thus, the rejection should be withdrawn.

### **Section 103 Rejection**

All pending claims 1-18 and 29-55 were rejected under section 103(a) as being unpatentable. Claims 1 and 29 are the only independent claims, and all other claims depend upon claims 1 or 29, directly or indirectly. Thus, if the cited references in the rejections do not teach or suggest all of the elements recited in claims 1 and 29, then the rejections should be withdrawn for all of the pending claims.

Claims 1-3, 6-7, 9, 11-14 and 18 were rejected under the section 103(a) as being unpatentable over Colbert *et al.* (US Pat. 6,756,026) in view of Dai *et al.* (WO02/081366A1).

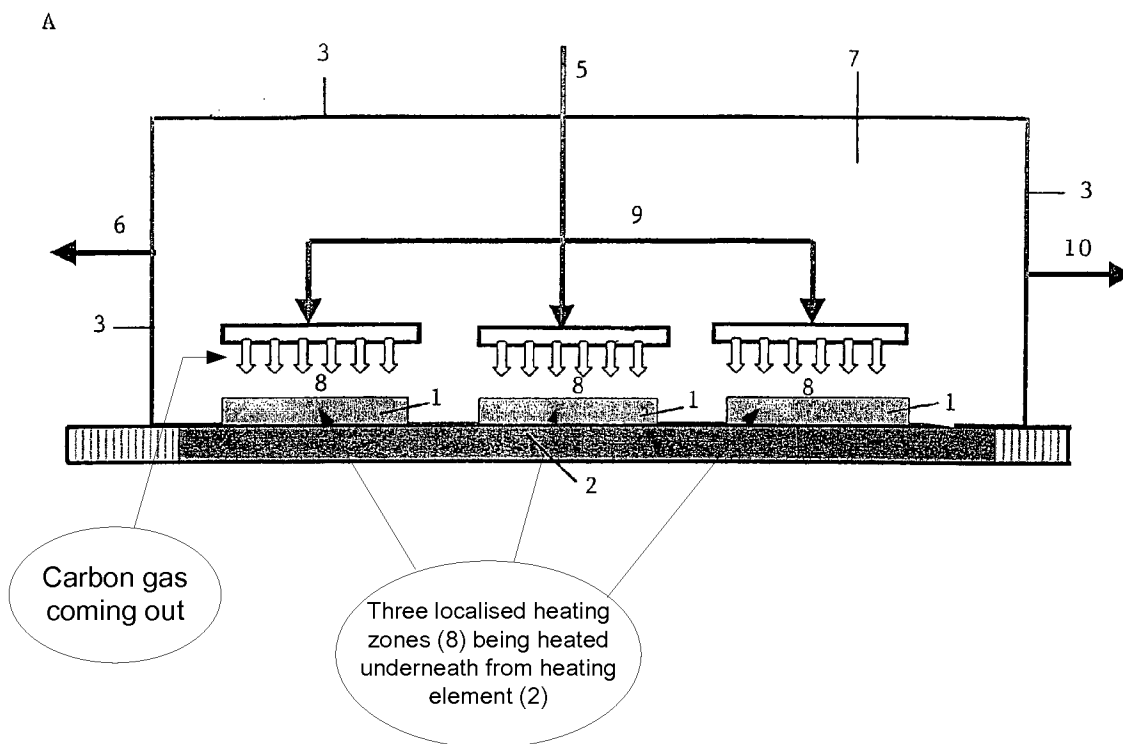
Claims 15-17 and 29-49 were rejected under the section 103(a) as being unpatentable over Colbert *et al.* and Dai *et al.*, as applied above, and further in view of Hong *et al.* (U.S. Pat. App. 2002/0127170).

There are clear errors in these rejections because the cited references, alone or in combination, do not teach or suggest one or more essential elements needed for a *prima facie* case of obviousness.

Claims 1 and 29 recite, *inter alia*, that “multiple prongs of radiating energy” are used to heat the catalyst on a die where a radiating-energy source is positioned “above the stage.” While the examiner admits that Colbert *et al.* does not teach this element, the examiner copies and refers to figure 1B of Dai *et al.* in the office action and states that “localized heating zones (8) have multiple heating prongs or laser beam prongs.” See page 4 of the office action.

Applicants respectfully disagree. The examiner’s reliance of Dai *et al.*’s figure 1B for teaching of multiple prongs of radiating energy is misplaced. Figure 1B of Dai *et al.* is shown below (with comments in bubbles added by applicants).

Figure 1B.



The multiple prongs (*i.e.*, three sets of six arrows pointing downward) shown in figure 1B of Dai *et al.* have nothing to do with radiation energy. Rather, the three sets of multiple arrows pointing downward indicate the direction of carbon containing gas distribution. At page 13, lines 25-27, Dai *et al.* states that “[t]he gas inlet (5) is connected to a gas distributor (9) that allows the carbon-containing material to be simultaneously introduced into multiple localized heating zones (8).” Localized heating zones (8) in Dai *et al.* refer to three blocks of substrates (1) which are sitting on top of and being heated by a heating element (2). Thus, contrary to the examiner’s statement, Dai *et al.* does not teach or suggest the use of multiple of prongs of radiating energy, as recited claims 1 and 29.

Since neither Colbert *et al.* nor Dai *et al.* teach or suggest an essential element “multiple prongs of radiation energy” as recited in claims 1 and 29, the rejections are improper and should be withdrawn at least for this reason.

In rejecting independent claim 29 and some of dependent claims, the examiner relies upon an additional reference, Hong *et al.* (U.S. Pat. App. 2002/0127170). Hong *et al.* was relied upon by the examiner for teaching of temperature control (see a paragraph bridging pages 5-6 of the Office Action), not for teaching of multiple prongs of radiating energy. Hong *et al.* does not

teach or suggest the use of “multiple prongs of radiating energy,” to heat a catalyst on a die where a radiating-energy source is positioned “above the stage.” Therefore, Hong *et al.* does not cure the deficiencies of Colbert *et al.* or Dai *et al.*

Since none of the cited references teach or suggest all of the elements recited in independent claim 1 or claim 29, the rejections of these claims (as well as their dependent claims) under the 103(a) section are improper. Accordingly, the rejections of all of the pending claims should be withdrawn at least for this reason.

There are a number of other clear errors in the examiner’s rejections. For example, claims 1 and 29 recite an element, a radiating energy source positioned “above the stage” to locally heat the catalyst on at least one die or on a selected work region.

In Colbert *et al.*, a catalyst is not present on a die. Rather, it is deposited and formed, *in situ*, on the open tube ends (i.e., nanotubes) by a vacuum deposition process to grow a single or array of long carbon fibers. See column 25, lines 1-3.

Dai *et al.* does not cure the deficiencies of Colbert *et al.* As shown above in figure 1B, Dai *et al.* has a heating element (2) which is located below the substrate (1). Thus, even if Colbert *et al.* and Dai *et al.* were to be combined, the combination falls short of the present invention as recited.

There are additional rejections of dependent claims which cite third or fourth references in addition to Colbert *et al.* and Dai *et al.* These rejections are not separately addressed, because the rejections of independent claims 1 and 29 are improper as described above. Accordingly, all of the rejections under the section 103(a) are improper, and applicants believe that all pending claims are allowable.

Respectfully submitted,

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